

Online Data Supplement

An Assessment of Primary Care and Pulmonary Provider Perspectives on Lung Cancer Screening

Matthew Triplette, MD, MPH, Erin K. Kross, MD, Blake A. Mann, MD, Joann G. Elmore, MD, MPH, Christopher G. Slatore, MD, MS, Shahida Shahrir, MPH, Perrin E. Romine, MD, MS, Paul D. Frederick, MPH, MBA, Kristina Crothers, MD

Provider Survey

Please complete the survey below.

Thank you!

1. Sex:

- Male
- Female

2. Race:

- American Indian or Alaskan Native
- Asian
- Black or African American
- Native Hawaiian or other Pacific Islander
- White
- Other

Other race:

3. Ethnicity:

- Hispanic or Latino
- Not Hispanic or Latino

4. Age:

- < 30
- 30 - 39
- 40 - 49
- 50 - 59
- 60 - 69
- >70

5. Current rank:

- Resident physician
- Fellow physician
- Attending physician
- Advance practice provider (PA/ARNP)
- Other

Other rank:

6. Specialty:

- General Internal Medicine
- Family Medicine
- Pulmonary
- Other

Other specialty:

7. Where is your primary outpatient clinic located (select only one)?

- Harborview - Pioneer Square Clinic
- Harborview - Adult Medicine Clinic
- Harborview - Madison Clinic
- Harborview - International Clinic
- Harborview - Chest Clinic
- Harborview - Family Medicine Clinic
- UWMC - Roosevelt Clinic
- UWMC - Pulmonary Clinic
- Family Medicine
- VA - Adult Medicine Clinic
- VA - Pulmonary Clinic
- VA - Women's Clinic
- Other

Other clinic:

8. On average, how many full days are you in clinic each month?

- Less than one full day (or less than two half days)
- One full day (or two half days)
- 2-5 full days
- 6-10 full days
- More than 10 full days

9. How familiar are you with the guidelines for low dose CT screening for lung cancer?

- Not at all familiar
- Slightly familiar
- Somewhat familiar
- Extremely familiar

10. How effective do you believe annual low dose CT screening is for preventing death from lung cancer?

- Not effective
- Minimally effective
- Moderately effective
- Very effective
- Don't know

11. In your opinion, how strong is the research evidence for low dose CT screening for lung cancer?

- Very weak
- Weak
- Neither strong nor weak
- Strong
- Very strong
- Don't know/Not sure

12. In your opinion, how important are each of the following to include in a discussion with patients about lung cancer screening?

	Not at all important	Slightly important	Moderately important	Very important
The patient's individual risk for lung cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number needed to screen to save one life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk of radiation exposure in a low-dose chest CT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The importance of adherence to annual screening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk of false-positive findings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk of undergoing an invasive procedure for a finding that may not be cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk of complications from an invasive procedure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk of an unexpected finding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk of over diagnosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The benefits of diagnosing lung cancer early	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoking cessation counseling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. In your opinion, CT screening for lung cancer:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Is supported by randomized controlled trials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Should be effective for my patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meets a need for patients at my facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is perceived as a need by providers at my facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is requested by patients at my facility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
May expose patients to harm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will place a burden on the healthcare system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appears to have more advantages than disadvantages for patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. In the LAST 12 MONTHS, for about how many patients:

	No patients	Between 1 and 5 patients	Between 6 and 10 patients	More than 10 patients
Have you discussed lung cancer screening with eligible patients?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ordered a chest CT for the purpose of lung cancer screening?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you referred for pulmonary consultation for the purpose of lung cancer screening?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have asked you about screening for lung cancer?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you used a paper decision aid to discuss lung cancer screening?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you used a web-based decision aid to discuss lung cancer screening?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. In the LAST 12 MONTHS, how often have you discussed lung cancer screening with patients who are eligible?

- Never
- Rarely
- Sometimes
- Frequently
- Almost always

16. In the FUTURE, how likely are you to discuss lung cancer screening with patients who are eligible?

- Never
- Rarely
- Sometimes
- Frequently
- Almost always

17. How comfortable are you initiating a shared decision making discussion with a patient considering lung cancer screening?

- Not comfortable at all
- Somewhat comfortable
- Very comfortable

18. Which of the following statements need to be included in the shared decision making documentation for patients considering lung cancer screening (check all that apply)?

- Patient date of birth or age
- Specific pack-years smoking history
- Current smoking status
- Number of years since quitting smoking for former smokers
- Statement that the patient does not have any prior history of malignancy
- Statement that the patient does not have any signs or symptoms of lung cancer
- Statement that the patient does not have a family history of lung cancer

19. Which provider do you feel should be primarily responsible for initiating discussions with most patients about lung cancer screening?

- Nurse or medical assistant
- Primary care provider
- General pulmonary physician
- Practitioner in dedicated lung cancer screening clinic
- Other
- Unsure

Other provider: _____

20. How important are the following in informing your decision for a follow-up plan, including referral to pulmonary or thoracic surgery, for a patient with a lung nodule found on a screening CT?

	Not at all important	Slightly important	Moderately important	Very important	Don't know/Unsure
Size of nodule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Characteristics of the nodule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patient's smoking history	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patient's age	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radiologist's recommendations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fleischner society guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lung-RADS category	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Which provider do you feel should be primarily responsible for implementing lung cancer screening and managing follow-up?

- Primary care provider
- General pulmonary provider
- Pulmonary physician in dedicated lung cancer screening clinic
- Radiologist
- Other

Other provider:

22. How familiar are you with the smoking cessation resources in your current practice?

- Not at all familiar
- Slightly familiar
- Somewhat familiar
- Extremely familiar

23. How often do you perform the following for patients who currently smoke in your clinical practice?

	Never	Seldom	Sometimes	Very often	Always
I counsel the patient on the importance of smoking cessation during the clinic visit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I utilize the 5A's (ask, assess, advise, assist, arrange) to discuss my patient's smoking habits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prescribe nicotine replacement or other smoking medication for patients thinking about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recommend or refer my patient for one-on-one counseling or a smoking cessation clinic for patients thinking about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I give information for a telephone quit-line for patients thinking about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I give information for websites and online materials for patients thinking about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I give written/audio/visual cessation materials for patients thinking about quitting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. In each of the following scenarios, please indicate if the patient is eligible for lung cancer screening based on current guidelines.

	Not eligible	Eligible	Not sure
A 57 year old man, current smoker with 40 pack-year history, no comorbidities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A 52 year old woman, current smoker with 20 pack-year history whose father had lung cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A 74 year old woman, former smoker with 60 pack-year history, but quit smoking 12 years ago	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An 82 year old woman, current smoker with 40 pack-year history	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A 65 year old man, current smoker with 40 pack-year history, who is a poor surgical candidate due to severe lung disease (FEV1 < 30% predicted)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. For each of the following scenarios of patients meeting criteria and undergoing a lung cancer screening CT, please estimate the 5 year risk of malignancy associated with the findings:

	< 5%	5-10%	11-20%	21-50%	>50%
A 70 year old man with a 10mm lower lobe nodule, which is solid but not spiculated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A 60 year old woman with a family history of lung cancer, with a 10mm upper lobe nodule, which is solid and spiculated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A 55 year old woman with a 25mm lower lobe nodule, which is partially solid and spiculated, on a background of emphysema	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. In your current clinical practice, how much of a barrier are the following to successful implementation of lung cancer screening?

	Not a barrier	A small barrier	A big barrier	Don't know/unsure
Legal concerns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of reimbursement/financial concerns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No current screening guidelines at practice location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient evidence to warrant a screening program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not enough staff to maintain and follow-up a screening program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership at my practice not supportive of screening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients not interested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not enough time to address in clinical practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unavailability of a multi-disciplinary team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients have too many other illnesses to address lung cancer screening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients not able to understand harms and benefits of lung cancer screening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patients unlikely to adhere to annual screening and follow-up recommendations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. How helpful would each of the following be in implementing a lung cancer screening program in your clinic?

	Not at all helpful	Slightly helpful	Moderately helpful	Very helpful	Extremely helpful
EMR-based clinical reminders of patients who may be eligible for screening	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A registry system to track nodules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A dedicated provider to do shared decision making counseling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A dedicated person to provide results of screening to patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easily available paper decision aids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easily available web-based decision aids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An EMR system that includes smoking pack-years and last quit date as data fields	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A note template to document a shared decision making visit regarding lung cancer screening for use during clinic visits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. In your current practice, do you feel you have the resources necessary to initiate lung cancer screening for a patient who meets criteria?

- Yes
 No
 Does not apply to me

29. Do you need additional information or knowledge on any of the following to provide lung cancer screening to your patients (check all that apply)?

- Insurance, billing and reimbursement
 Medical record documentation requirements
 Eligibility criteria
 Shared decision making
 Scientific evidence
 Follow-up recommendations for nodules
 Referral guidelines for pulmonary and/or thoracic surgery
 Other
 No additional knowledge or training needed

Other additional information or training: _____

30. Which of the following would provide you the best format for additional training or resources for lung cancer screening (check all that apply)?

- In-clinic training session
 Online module
 A review article
 A pocket guide or check list for use in the clinic visit
 High quality decision aid
 Other

Other format: _____